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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/013,049	12/10/2001	Richard James Riehle	10086/2	2668
28006	7590	09/07/2004	EXAMINER	
HERCULES INCORPORATED HERCULES PLAZA 1313 NORTH MARKET STREET WILMINGTON, DE 19894-0001			BEISNER, WILLIAM H	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/013,049

Applicant(s)

RIEHLE ET AL.

Examiner

William H. Beisner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 32, 30, 31, 32, 33-38 have been renumbered as claims 30-39 respectively.

2. With respect to the amendment filed 02 June 2004, in view of the revised amendment practice encompassed by 37 CFR 1.121, claim 1 and claim 36 (previously claim 35 renumbered as claim 36) should have included the status identifier "(Currently amended)". Also, claim 30 (previously claim 32 renumbered as claim 30) should have included the status identifier "(Canceled)" and should not have included presented text of the claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-12, 14-16, 18-25 and 35-37 are rejected under 35 U.S.C. 103(a) as being obvious over Richle et al.(US 6,554,961 or US 2003/0205345) in view of Miller et al.(US 5,171,795).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of

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invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

The reference of Richle et al. discloses a process for rendering a polyamine-epihalohydrin resin storage stable, that includes treating a composition containing a wet strength polyamine-epihalohydrin resin, the composition comprising a solids content of at least 15 wt% (21%, see Example 75) and including CPD-forming species, with at least one enzymatic agent under conditions to at least one of inhibit, reduce and remove the CPD-forming species to obtain a gelation storage stable reduced CPD-forming resin so that the composition containing the reduced CPD-forming polyamine-epihalohydrin resin when stored for 24 hours at 50degC, and a pH of about 1.0 releases less than about 250 ppm dry basis of CPD (See Example 75 and Table 31).

With respect to claim 1, claim 1 (as amended) additionally recites that the resin employed in the method "is formed in a reaction having a molar ratio of epihalohydrin to secondary amine group of less than [sic] about 0.50".

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The reference of Richle et al. discloses employing resins formed in a reaction having a molar ratio from about 0.50 to about 1.8 (See column 13, line 32, to column 14, line 5).

The reference of Miller et al. discloses that it is known in the art to form polyaminopolyamide-epichlorohydrin resins using molar ratios of epichlorohydrin to secondary amine group in the range of 0.05 to 1.5 (See column 4, lines 30-42).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to apply the stabilization treatment process disclosed by the reference of Richle et al. to polyaminopolyamide-epichlorohydrin resins formed using molar ratios of epichlorohydrin to secondary amine group below 0.50 for the known and expected result of stabilization of a an art recognized polyaminopolyamide-epichlorohydrin resin using the advantageous procedure encompassed by the treatment method of Richle et al.

With respect to claim 2, see Table 31 that shows CPD ppms of 12.6 and 13.7.

With respect to claims 3 and 4, the enzyme treatment is performed at 40.0 deg. C (See column 89, lines 58-59).

With respect to claims 5 and 6, the enzyme treatment is performed for 6 hours (See column 89, line 62).

With respect to claims 7-9, the enzyme treatment is performed at a pH of 8 (See column 89, line 54).

With respect to claims 10-12, the enzyme treatment is performed using an enzyme to resin ratio of 1:77.

With respect to claims 14-16 and 18, the reference discloses using the enzyme Alcalase (See column 89, line 55).

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With respect to claims 19-21, the reference discloses the use of a number of resins (See column 16, lines 33-62).

With respect to the biological dehalogenation of claims 22-25, the reference discloses a subsequent dehalogenation step (See Example 75).

With respect to claim 35, the dehalogenation step meets this claim limitation (See column 17, lines 8-27).

With respect to claims 36 and 37, see Examples 76 and 77 which are drawn to paper making steps with the produced product of Example 75.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-29 and 31-39 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-37 of copending Application No. 10/006,027 in view of Miller et al.(US 5,171,795).

Although the conflicting claims are not identical, they are not patentably distinct from each other because while instant claim 1 recites “less than about 100ppm”, claim 1 of application 10/006,027 recites the exact same claim limitations except uses the language “less than about 250 ppm”. However, in the absence of a showing of criticality and/or unexpected results, it would have been obvious to one of ordinary skill in the art to determine the optimum solids content and/or final CPD concentrations based on considerations such as the source of the resin composition and the intended use of the resin composition while providing the benefits associated with the claimed treatment process.

Instant claim 1 (as amended) additionally recites that the resin employed in the method “is formed in a reaction having a molar ratio of epihalohydrin to secondary amine group of less than [sic] about 0.50”.

The reference of Miller et al. discloses that it is known in the art to form polyaminopolyamide-epichlorohydrin resins using molar ratios of epihalohydrin to secondary amine group in the range of 0.05 to 1.5 (See column 4, lines 30-42).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to apply the stabilization treatment process encompassed by the claims of application 10/006,027 to polyaminopolyamide-epichlorohydrin resins formed using molar ratios of epihalohydrin to secondary amine group below 0.50 for the known and expected result of stabilization of a an art recognized polyaminopolyamide-epichlorohydrin resin using the procedure encompassed by the treatment method of the claims of 10/006,027.

This is a provisional obviousness-type double patenting rejection.



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9. Claims 1-27 and 35-37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 10-15 of copending Application No. 10/396,155 in view of Richle et al.(US 6,554,961) and Miller et al.(US 5,171,795).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-7 and 10-15 of application 10/396,155 encompass a treatment process that is essentially the same as that of claims 1-25 and 34-36 of the instant application. The instant claims recite that the resin composition includes a solids content of at least 15%, while the claims of 10/396,155 are silent as to the solids content.

The reference of Richle et al. discloses a resin treatment process that is similar to that of the instant claims wherein the starting resin solids content is greater than 15% (21% see Example 75).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to employ the method encompassed by claims 1-7 and 10-15 on a resin composition of a solids content of greater than 15% as evidenced by the reference of Richle et al. for the known and expected result of performing the treatment process encompassed by claims 1-7 and 10-15 on an art recognized starting resin that is capable of being subjected to the treatment process of claims 1-7 and 10-15 of application 10/396,155.

Instant claim 1 (as amended) additionally recites that the resin employed in the method “is formed in a reaction having a molar ratio of epihalohydrin to secondary amine group of less than [sic] about 0.50”.

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The reference of Miller et al. discloses that it is known in the art to form polyaminopolyamide-epichlorohydrin resins using molar ratios of epichlorohydrin to secondary amine group in the range of 0.05 to 1.5 (See column 4, lines 30-42).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to apply the stabilization treatment process encompassed by the claims of application 10/396,155 to polyaminopolyamide-epichlorohydrin resins formed using molar ratios of epichlorohydrin to secondary amine group below 0.50 for the known and expected result of stabilization of a an art recognized polyaminopolyamide-epichlorohydrin resin using the procedure encompassed by the treatment method of the claims of 10/396,155.

This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

10. Applicants' amendment to claim 18 and associated remarks (See page 5 of the response dated 02 June 2004) are sufficient to overcome the 35 USC 112, second paragraph, rejection of record.

11. Applicants' amendment to claim 1 is sufficient to overcome the prior art rejection under 35 USC 102. However, a new grounds of rejection in view of the combination of the reference of Richle et al.(US 6,554,961) and Miller et al.(US 5,171,795) has been applied against claim 1 and dependent claims 2-25 and 35-37.

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12. With respect to the use of the reference of Richle et al.(US 6,554,961) as prior art against the instant claims, Applicants argue that the method disclosed by the reference of Richle et al. is different from that of the instant claims because the instant claims are treating a resin composition of greater than 15% while the resin composition of Example 75 of Richle et al. is treating a resin composition of a 13.5% solids content (See Pages 5 and 6 of the response dated 02 June 2004).

In response, Applicants comments are not found to be persuasive because the arguments are not commensurate in scope with the instant claim language. That is the instant claim language, which includes the term comprising, does not preclude a step of diluting the starting resin composition with solids content of 21%. The claimed treating step recites a starting resin with a solids content of greater than 15% but does not preclude a step of diluting the starting composition or the starting composition could be diluted by contacting the composition with the enzyme composition.

13. With respect to the 35 USC 101 and obviousness-type double patenting rejections over copending application 10/006,027, applicants' amendment to claim 1 and associated comments (See pages 6-7 of the response dated 02 June 2004) are sufficient to over come the rejections of record. However, a new obviousness-type double patenting rejection has been applied over the claims of 10/006,027 in view of the reference of Miller et al.(US 5,171,795).

14. With respect to the obviousness-type double patenting rejection of the claims over copending application 10/396,155, applicants' amendment to the claims is sufficient to over the

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obviousness rejection of record. However, a new grounds of rejection has been applied over the claims of application 10/396,155 in view of Richle et al.(US 6,554,961) and Miller et al.(US 5,171,795). With respect to applicants' comments concerning unexpected results, these comments have not been found to be persuasive since the claim language is not commensurate in scope with the arguments advanced by the applicants (See paragraph 12 above for details).

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

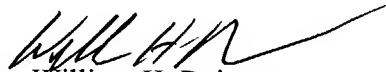
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 571-272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Beisner  
Primary Examiner  
Art Unit 1744

WHB